

# Green Building



## Why Build Green?

Maricopa County instituted its Green Government program in 2008. As part of that program, we're encouraging builders and developers of all sizes to go green with us. The reasons benefit us all!

- ◆ Minimize impact to the environment
- ◆ Reduce pollutants (indoor & outdoor)
- ◆ Conserves valuable resources
- ◆ Lessen amount of waste
- ◆ Preserve ecological balances
- ◆ Life-cycle cost savings
- ◆ It's the right thing to do!



**Maricopa County  
Planning & Development**

## Green Building Materials

- ◆ Select locally-manufactured materials
- ◆ Use materials with recycled content
- ◆ Select materials suitable for the arid climate
- ◆ Utilize materials that can be recycled
- ◆ Select materials that come from a rapidly renewable resource (i.e. bamboo, cork, etc)
- ◆ Avoid materials that produced hazardous by-products during manufacturing
- ◆ Select wood that is Forest Stewardship Council Certified (FSC)

## Minimize Site Disturbance

- ◆ Protect sensitive ecological land
- ◆ Create smaller building envelopes and minimize vicinity disturbance
- ◆ Protect indigenous plants and delicate topsoil during construction
- ◆ Avoid altering any natural waterways or drainage channels

## Use Energy Efficient Technology

- ◆ Use high-performance windows
- ◆ Switch out light bulbs with Compact Florescent Lights (CFLs) or Light Emitting Diodes (LED)
- ◆ Use energy efficient appliances (*Energy Star* rated)
- ◆ Orient the structures to respond efficiently with our climate
- ◆ Locate windows to maximize natural lighting and cross ventilation
- ◆ Consider renewable energy sources (solar, etc)
- ◆ Insulate the structures correctly

## Safe Indoor Air Quality

- ◆ Avoid materials that have high levels of volatile organic compounds (VOC); including some paints/stains, carpets, adhesives, and particle boards

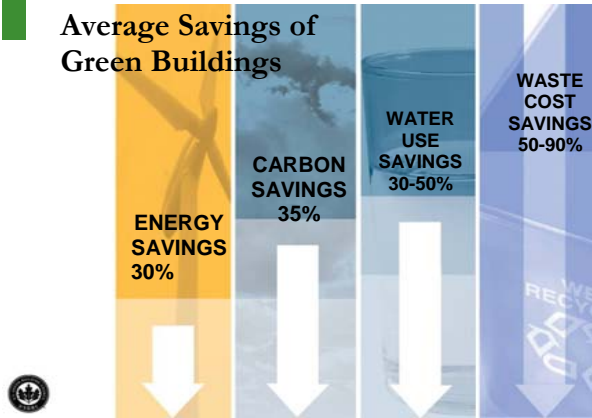
- ◆ Design for excellent, natural ventilation
- ◆ Design air distribution systems that is easily cleaned and maintained
- ◆ Ensure good seals between rooms with mechanical equipment and livable spaces
- ◆ Consider using UV light systems or HEPA filters with your air delivery system

## Use Water Efficient Technology

- ◆ Use dual flush toilets
- ◆ Use native/drought tolerant plants for landscaping
- ◆ Install water efficient low-flow showerheads and faucets
- ◆ Use rainwater harvesting cisterns for watering landscape
- ◆ Consider gray water usage, taking wastewater from bathroom sinks, bathtubs, and laundry rooms for use on landscape



## Average Savings of Green Buildings



Source: Capital E Analysis

## Financial Benefits vs. Cost

Building Green saves over the long run.

### Average Extra Cost of Building Green

Per square foot (-\$3.00 to -\$5.00)

### Summary of Saving (per sq. ft.)

Category	20-yr NPV* Value
Energy Savings	\$5.80
Emissions Savings	\$1.20
Water Savings	\$0.50
Waste Savings (const. only)- 1-yr)	\$0.03
Operations & Maint. Savings	\$8.50
Productivity/Health Benefits	\$36.90-\$55.30
<b>Saving Subtotal</b>	<b>\$52.93 to \$71.33</b>

### 20-year Net Benefit

**\$50 to \$66 per sq. ft.\***

Source: Capital E Analysis (\* LEED building)

## Ways to Build Green

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